



Penn Medicine

Continuing Medical and
Interprofessional Education

The Mark E. Josephson Twenty-Sixth Annual

State-of-the-Art Arrhythmia Symposium

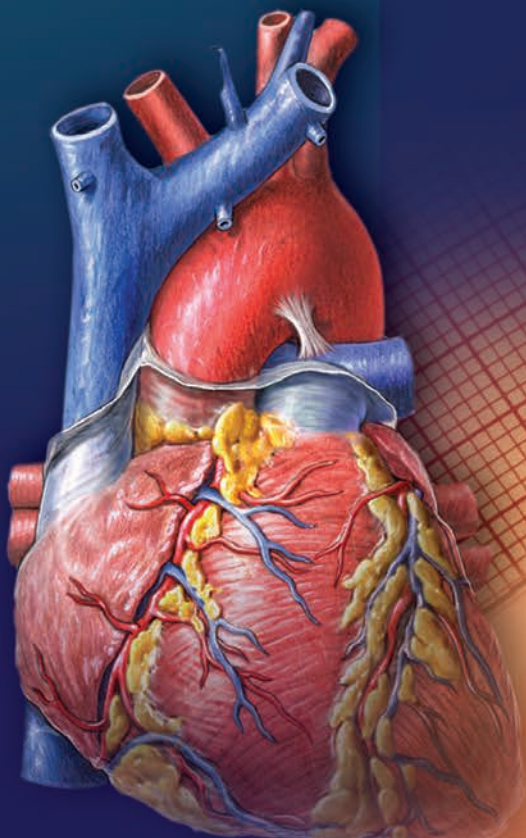
**Arrhythmia Diagnosis & Treatment Standards 2018
and Leonard N. Horowitz, MD
Memorial Lecture**

A CME/CNE-ACCREDITED SYMPOSIUM

Saturday, September 8, 2018

Hilton Philadelphia at Penn's Landing
201 South Christopher Columbus Blvd
Philadelphia, PA 19106

www.penncmeonline.com



Co-sponsored with:



**Heart
Rhythm
Society**SM

**The Department of Medicine, Division of Cardiology,
Electrophysiology Program
At the University of Pennsylvania Health System
*Presents***

PROGRAM OVERVIEW & TARGET AUDIENCE

This annual symposium was created to provide the busy clinician, associated professional, and electrophysiologist with “state-of-the-art” information on arrhythmia diagnosis and management. It is presented in a format that permits each group the opportunity to focus on some of their specific issues and concerns as well as to review topics of common interest.

Current information on invasive and non-invasive electrocardiographic and electrophysiologic tools used in the diagnosis, evaluation, and treatment of cardiac rhythm disorders will be presented. Attendees will develop an understanding of the best practice approaches to diagnosing and treating patients with atrial fibrillation, other atrial and ventricular arrhythmias, and risk factors for sudden death.

The symposium is coupled with the Leonard N. Horowitz, MD Memorial Lecture. This annual lecture serves as an ongoing tribute to a colleague and friend who dedicated his much too brief time with us advancing the field of arrhythmia management.

Learning Objectives

Upon completion of this activity, participants should be able to:

- Describe the differences in the various oral anticoagulants including appropriate use, dosing, risks, and contraindications
- Identify the value of risk factor modification to improve atrial fibrillation outcome
- Explain the use and value of new techniques and technologies employed for complex EP device and ablation cases
- Discuss the use of genetic testing for patients and family members of patients with inherited arrhythmia syndromes
- Review the importance of remote monitoring in the care of the arrhythmia patient
- Describe the differences in monitoring techniques available for arrhythmia detection and appropriate patient selection
- Discuss new pacing indications, techniques and ways to optimize device programming
- Review the risk of PVCs and non-sustained VT and appropriate evaluation and treatment options
- Describe best practices as related to avoiding device infection & device infection treatment including extraction

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215-928-1234

SCIENCE

Hosting Department

The Mark E. Josephson Twenty-Sixth Annual State-of-the-Art Arrhythmia Symposium is hosted by the Department of Medicine, Division of Cardiology, Electrophysiology Section, University of Pennsylvania Health System.

Accreditation



JOINTLY ACCREDITED PROVIDER™
INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, Penn Medicine is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide

continuing education for the healthcare team.

Designation of Credit

Physicians: Penn Medicine designates this live activity for a maximum of 7.5 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nurses: This activity is approved for 7.5 contact hours.

Physician Assistants: AAPA accepts certificates of participation for educational activities certified for *AMA PRA Category 1 Credit™* from organizations accredited by ACCME or a recognized state medical society. PAs may receive a maximum of 7.5 Category 1 credits for completing this activity.

Certificates and Transcripts: After the conference has concluded, all participants will receive a follow-up email with instructions and a link. Once participants submit the request for credit, the earned credits will be available for viewing on a transcript and certificates will be available for printing at www.penncmeonline.com. Please note that the individual certificate will not be mailed.

Registration Fees

The registration fees for *The Mark E. Josephson Twenty-Sixth Annual State-of-the-Art Arrhythmia Symposium* are \$120 for physicians and industry employees, \$100 for nurse practitioners, physician assistants, nurses and healthcare professionals, and \$65 for residents, fellows and retired physicians. Registration fees for Penn Medicine employees are \$100 for physicians, \$65 for nurse practitioners, physician assistants, nurses and healthcare professionals and \$60 for residents, fellows and students. A valid Penn Medicine ID is required to receive the special rate.

The registration fee includes attendance to the symposium, a course booklet and a link to view the presentations online, credit certificate, continental breakfast, mid-morning and afternoon refreshments, lunch, post-symposium reception and garage-only parking at the Hilton Philadelphia at Penn's Landing.

If you are registering with a credit card, please register online at www.pennmcneonline.com, then click on CME/CNE activities/Live Events. We cannot accept faxed or mailed registration forms with credit card information. To pay by check, complete the registration form and mail it in with your check. Please see the registration form for mailing information. Please note: mailed registrations can take up to 5-10 business days before they are received. All registrations will be confirmed by email as long as your registration is received no later than August 26, 2018.

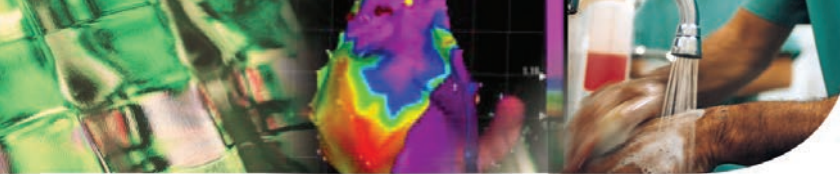
Cancellation and Refund Policy

In order to process refunds for course withdrawals, cancellations must be received in writing by August 26, 2018 (subject to a \$15 service charge). No refunds will be issued thereafter.

The University reserves the right to cancel or postpone any course due to unforeseen circumstances. In the event of cancellation or postponement, the University will refund registration fees but is not responsible for related costs or expenses to participants, including cancellation fees assessed by hotels, airlines, and travel agencies.

Services for the Disabled If special arrangements are required for an individual with a disability to attend this meeting, please contact the Office of Continuing Medical and Interprofessional Education no later than August 26, 2018, at 215-898-6400.

Nondiscrimination Statement The University of Pennsylvania values diversity and seeks talented students, faculty, and staff from diverse backgrounds. The University of Pennsylvania does not discriminate on the basis of race, sex, sexual orientation, gender identity, religion, color, national or ethnic origin, age, disability, or status as a Vietnam Era Veteran or disabled veteran in the administration of educational policies, programs or activities; admissions policies; scholarship and loan awards; athletic, or other University administered programs or employment. Questions or complaints regarding this policy should be directed to Executive Director, Office of Affirmative Action and Equal Opportunity Programs, 3600 Chestnut Street, Sansom Place East Suite 228, Philadelphia PA 19104-6106 or 215-898-6993 (Voice) or 215-898-7803 (TDD). www.upenn.edu/affirm-action.



Meeting Location and Parking

The Mark E. Josephson Twenty-Sixth Annual State-of-the-Art Arrhythmia Symposium will take place at the Hilton Philadelphia at Penn's Landing, 201 South Christopher Columbus Boulevard, Philadelphia, PA. The hotel's main number is 215-928-1234. If you need overnight reservations, please call 1-800-233-1234. Please visit the Hilton's website at www.pennslanding.hilton.com for directions and additional information.

The Hilton parking garage is located just past the hotel's main entrance. The parking fee is included in your registration fee. Your parking in the Hilton garage will be validated at the registration desk on the day of the conference.

For information on additional overnight accommodations or what to do or see while you're in Philadelphia, please go to www.gophila.com.

Disclosures

Penn Medicine, Office of Continuing Medical and Interprofessional Education, adheres to the ACCME *Standards for Commercial Support*. Faculty disclosure information will be made available in the conference materials and syllabus. Faculty members are also expected to disclose to participants any discussions of off-label and/or investigational uses of pharmaceutical products within their presentations.

Symposium Director

Francis Marchlinski, MD

*Richard T. and Angela Clark President's Distinguished Professor
Director, Cardiac Electrophysiology
Director, Electrophysiology Laboratory
University of Pennsylvania Health System
Philadelphia, PA*

Guest Faculty

Christopher Piorkowski, MD, PhD

*Head of the Department of Cardiac
Electrophysiology
University of Dresden – Heart Center
Dresden, Germany*

Kalyanam Shivkumar, MD, PhD

*Professor of Medicine, Radiology
& Bioengineering
Director, UCLA Cardiac Arrhythmia
Center & EP Programs
Director & Chief, Interventional
CV Programs & Cardiac
Catheterization Labs
David Geffen School of Medicine &
UCLA Health System
Los Angeles, CA*

Faculty

All faculty are affiliated with the Perelman School of Medicine at the University of Pennsylvania Philadelphia, PA

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Nurse Practitioner
Cardiac Electrophysiology

Jeffrey Arkles, MD

Assistant Professor of Medicine
Cardiac Electrophysiology

John Bullinga, MD

Clinical Associate Professor of Medicine
Director, Cardiac Electrophysiology
Laboratory
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David Callans, MD

Professor of Medicine
Cardiac Electrophysiology

Rajat Deo, MD

Assistant Professor of Medicine
Cardiac Electrophysiology

Sanjay Dixit, MD

Professor of Medicine
Director, Electrophysiology Laboratory
Philadelphia VA Medical Center

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Professor of Medicine
Chief, Cardiology Section
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Assistant Professor of Medicine
Director, Electrophysiology
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Assistant Professor of Clinical Medicine
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Physician Assistant
Cardiac Electrophysiology

Matthew Hyman, MD, PhD

Assistant Professor of Medicine
Cardiac Electrophysiology

Ramanan Kumareswaran, MD

Assistant Professor of Clinical Medicine
Cardiac Electrophysiology

David Lin, MD

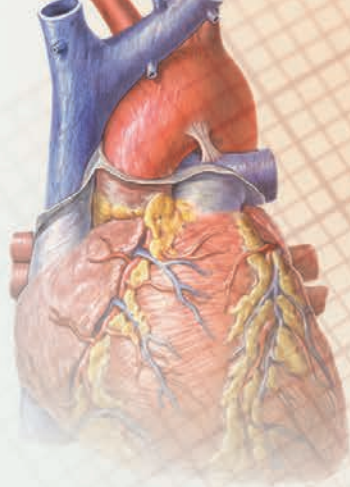
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Letonia McKnight, CRNP

Nurse Practitioner
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Tracey Munson, CRNP

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Cardiac Electrophysiology

Andrea Schell, PA-C

Physician Assistant
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Assistant Professor of Clinical Medicine
Co-Director, Electrophysiology
Fellowship Program

Cory Tschabrunn, PhD

Director, Translational
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Cardiac Electrophysiology

Erica Zado, PA-C, FHRS

Physician Assistant
Cardiac Electrophysiology

The Mark E. Josephson Twenty-Sixth Annual State-of-the-Art Arrhythmia Symposium

Saturday, September 8, 2018

7:15 – 7:45 AM

Registration and Continental Breakfast

General Cardiology

Morning Session – 7:45 – 10:50 AM

Moderator: Francis Marchlinski, MD

7:45 – 7:50 AM

Welcome & Introduction

Francis Marchlinski, MD

7:50 – 8:15 AM

Keynote: ECG to Localize Arrhythmias – What Would Mark Say?

Francis Marchlinski, MD

- ECG clues in sinus rhythm
- “Burn it your brain”:
Pattern recognition – when is it important?
- The basics of ECG vector analysis

8:15 – 8:50 AM

Remote Monitoring:

Data Overload or the New Paradigm?

Christopher Piorkowski, MD

- Diagnosing AF
- Assessing effect of ablative therapy
- Implantable devices
- Wearables (Apple Heart Study)

8:50 – 9:20 AM

Cutting Edge Catheter Ablation

Pasquale Santangeli, MD, PhD

- Epicardial RV ablation for Brugada syndrome
- Ablation of VF triggers
- Ablation of persistent AF as first line therapy

9:20 – 9:50 AM

VPDs and Non-Sustained VT:

When to Worry and How to Treat?

Gregory Supple, MD

- Characterizing and quantifying risk
- Role of MR imaging
- When and how to ablate

9:50 – 10:25 AM

Challenging Cases in Atrial Fibrillation Management: Clinical Decision Making

Chair: Francis Marchlinski, MD

*Panel: David Frankel, MD, David Lin, MD,
Fermin Garcia, MD, Christopher Piorkowski, MD,
Kalyanam Shivkumar, MD, PhD*

- Which patients should get HIS bundle ablation?
- What are considerations when
choosing antiarrhythmics?
- Effectiveness of repeat AF ablation procedures?
- What is “nonvalvular” AF and is there still
a role for warfarin?

10:25 – 10:50 AM

LAA Occlusion Devices: In Whom, How, Results

Fermin Garcia, MD

- Patient selection
- Prerecorded live case implantation
- Expected outcome

10:50 – 11:15 AM Break

11:15 AM – 12:00 PM

Leonard N. Horowitz, MD

Memorial Lecture

Neural Modulation of Cardiac

Arrhythmias – From Bench to Bedside

Kalyanam Shivkumar, MD, PhD

12:00 – 1:00 PM Lunch

General Cardiology

Afternoon Session – 1:00 – 2:45 PM

Moderator: Andrew Epstein, MD

1:00 – 1:25 PM

HIS Bundle Pacing: In Whom, How, Results

Robert Schaller, DO

- Patient selection
- Prerecorded live case
- Expected outcome

1:25 – 1:50 PM

What’s New in Atrial Fibrillation Epidemiology?

Rajat Deo, MD

- What constitutes a stroke risk?
- Have NOACs eliminated anticoagulation
compliance issues?
- Influence of race and gender
- Role of CASTLE-AF on clinical practice
- Late recurrences after AF ablation –
not doom and gloom

1:50 – 2:45 PM

Challenging Cases in Device Management:

Case Presentation/Audience Participation

Moderator: Andrew Epstein, MD

*Panel Members: Robert Schaller, DO, Saman
Nazarian, MD, PhD, Jeffrey Luebbert, MD,
John Bullinga, MD*

- Risk stratification in NICM
- When/how to get MR imaging?
- What to do with CRT non-responders?
- When do you implant leadless pacemaker?
- Subcutaneous or intravascular ICD?

2:45 – 3:05 PM Break

General Cardiology

Afternoon Session – 3:05 – 5:00 PM

Moderator: David Callans, MD

3:05 – 3:25 PM

ECG: Common Mistakes Made in Automated Interpretation

Ramanan Kumareswaran, MD

- Afib versus atrial flutter
- Common indeterminate rhythms
- Pseudo MI patterns (Brugada, WPW)
- Identifying high risk bradycardia markers

3:25 – 3:50 PM

New Arrhythmia Management Guidelines and Results of CABANA: What You Need to Know?

Jeffrey Arks, MD

- Atrial fibrillation ablation
- MRI and radiation exposure in patients
with devices
- Lead management and extraction
- Monitoring guidelines
- CABANA trial highlights

3:50 – 4:15 PM

Unique Arrhythmia Related Drug Therapy

David Frankel, MD

- Flecainide for VPD-induced cardiomyopathy
- Dofetilide for arrhythmias after ablation
- Ivabradine for inappropriate sinus and
junctional tachycardia
- Factor XI inhibitor as anticoagulant

AGENDA

4:15 – 5:00 PM

Controversies in Arrhythmia Management

Moderator: David Callans, MD

*Panel Members: Gregory Supple, MD,
David Frankel, MD, David Lin, MD,
Matthew Hyman, MD, PhD*

- Stopping anticoagulant after AF ablation in high risk patients
- When are you too sick for ablation? – role of hemodynamic support
- Is there still a role for digoxin?
- Role of routine LAA ligation with surgical procedures

Advanced EP

Afternoon Session – 1:00 – 2:45 PM

Moderator: Francis Marchlinski, MD

1:00 – 1:25 PM

How to Best Isolate Pulmonary Veins Using Balloon Technology

David Callans, MD

1:25 – 1:50 PM

How to Best Isolate Pulmonary Veins Using Radiofrequency Energy

Matthew Hyman, MD, PhD

1:50 – 2:20 PM

What to Do When the PVs are Isolated at Repeat Procedure?

Sanjay Dixit, MD

- Posterior wall isolation
- Trigger ablation/empiric trigger site ablation
- Rotor ablation
- Scar ablation

2:20 – 2:45 PM

How to Interpret Unipolar Electrograms

Cory Tschabrunn, PhD

- Current standards and controversies
- Learning to use the slider bar
- Adjusting for hypertrophy and transmural to identify epicardial scar
- Unipolar electrograms as marker of irreversibility of cardiomyopathy

2:45 – 3:05 PM Break

Advanced EP

Afternoon Session – 3:05 – 5:00 PM

Moderator: Saman Nazarian, MD, PhD

3:05 – 3:30 PM

Non PV Triggers – Initiation, Localization, Ablation

David Lin, MD

- Best strategies for provoking triggers
- Typical sites of origin, effect of gender and AF chronicity
- How to localize based on an ECG
- How to localize based on intracardiac recordings

3:30 – 4:00 PM

How to Access/Utilize the Coronary Venous System for Resynchronization Therapy and VT Ablation

Fermin Garcia, MD

- Getting past the valve of Vieussens
- Increasing support to maneuver in the CS
- When do you dilate veins?
- AIV and septal vein mapping

4:00 – 4:30 PM

Imaging Before and During Lead Extraction

Robert Schaller, DO

- What is recommended?
- One picture is worth a thousand words!
- Lessons learned

4:30 – 5:00 PM

How, When, and Risks of Isolating the SVC, CS and LAA

Pasquale Santangeli, MD, PhD

- Patient selection
- Ablation techniques
- Risks

Associated Professional

Afternoon Breakout Session – 1:00 – 2:45 PM

Moderators – Lija Abraham, CRNP, Tara Parham, CRNP

1:00 – 1:40 PM

Leadless Pacemakers, LAAO, Implantable Loop Recorders – What the “Front-line” Needs to Know

Robert Hipp, PA-C, MS, MBA

- Indications
- Risks to discuss with your patient
- Procedural details
- Detecting and treating complications

1:40 – 2:10 PM

Update on Inherited Arrhythmia Disorders

Pasquale Santangeli, MD, PhD

- ECG manifestations
- Genetic testing-who to test and what to do with results
- Family screening
- Treatment including devices, drugs to take, and drugs to avoid

2:10 – 2:45 PM

Focus on Device Infection

Jeffrey Arkles, MD

- Incidence
- Best practices to avoid infection
- How to recognize infection
- Timing of device extraction and reimplant

2:45 – 3:05 PM Break

Associated Professional

Afternoon Breakout Session – 3:05 – 5:00 PM

*Moderators – Cynthia Ramos, CRNP,
Tracey Munson, CRNP*

3:05 – 3:35 PM

Anticoagulation Dos and Don'ts

David Frankel, MD

- Continuing anticoagulation during EP related procedures
- When do you stop anticoagulants post AF ablation?
- When is an elderly patient too high risk of bleeding?
- How much AF warrants anticoagulation?

3:35 – 4:05 PM

Risk Factor Modification for AF Treatment

Amaryah Yeager, RN, BSN

- What is the science behind the movement?
- Setting up and running a center for reducing risk factors
- Expected outcomes

4:05 – 5:00 PM

Troubleshooting Telemetry and Other Monitors – Case Review and Audience Participation/Panel Discussion

Moderator: Erica Zado PA-C, FHRs

*Panel Members: Christian Yacono, PA-C, CCDS,
Letonia McKnight, CRNP, Carla Petrongolo, PA-C,
Andrea Schell, PA-C*

- Device diagnostics and electrograms on device interrogation
- Tachy and brady arrhythmias on telemetry
- Pacemaker and ICD function and malfunction on telemetry
- Information from wearables and personal monitors

5:00 PM Adjourn

5:00 – 6:00 PM Reception

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Questions? Contact us at:

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Please note we are unable to accept faxed registration forms.

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Academic Degree _____

Medical Specialty _____

Affiliation (Hospital, Office, or Company) _____

Address (☐ affiliation ☐ home) _____

City _____ State _____ Zip _____

Phone _____ Fax _____

E-mail _____

Breakout Session Preference (Please Check One)

☐ General Cardiology ☐ Associated Professionals ☐ Advanced EP

Registration Fees

(pre-payment is required to be officially registered)

☐ \$120 Physicians or Industry

☐ \$100 Nurses or Healthcare Professionals

☐ \$100 Penn Medicine Physicians

☐ \$65 Residents and Fellows (Penn and Non-Penn)

☐ \$65 Retired Physicians

☐ \$65 Penn Medicine Nurses or Healthcare Professionals

☐ \$60 Penn Medicine Students

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Conference Coordinator, Perelman School of Medicine at the
University of Pennsylvania, Office of Continuing Medical Education
150 Anatomy/Chemistry Building, 3620 Hamilton Walk, Philadelphia, PA 19104-6061
- Do not include any credit card information on the registration form or email
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Please Note: Walk-in registrants must bring payment to the program.



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